

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

11040 U.S. PTO
09/878555
06/11/01

#2

PATENT APPLICATION

Inventor(s): Titus Lo et al.

Docket No.: 2001-0084

Application No.:

Filing Date:

Examiner Name:

Group Art Unit:

Title: Turbo Channel Estimation For OFDM Systems

**COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231**

SIR:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08A. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.



1. This Information Disclosure Statement is being filed, within three months of the U. S. filing date; or within three months of the date of the entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or before the mailing date of a first Office Action on the merits; or before the mailing of a first Office Action after the filing of a request for continued examination under 37 C. F. R. § 1.114, whichever occurs last. No certification or fee is required, 37 C.F.R. § 1.97(b).



2. This Information Disclosure Statement is being filed more than three months of the U.S. filing date, or more than three months after the date of the entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application or after the mailing date of the first Office Action on the merits, but before the mailing date of either a Final Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, whichever occurs first, 37 C.F.R. § 1.97(c).



a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement, 37 C.F.R. § 1.97 (e)(1), or

☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement, 37 C.F.R. § 1.97 (e)(2).

☐ c. Please debit Deposit Account No. 01-2745 in the amount of \$240.00 to cover the fee under 37 C.F.R. § 1.17(p) and to ensure consideration of the disclosed information. A duplicate copy of this paper is attached.

☐ 3. This Information Disclosure Statement is being filed after the mailing date of either a Final Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, whichever occurs first, but before payment of the Issue Fee, 37 C.F.R. § 1.97(d).

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement, 37 C.F.R. § 1.97(e)(1).

☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement, 37 C.F.R. § 1.97(e)(2).

☐ c. Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered.

☐ d. Please debit Deposit Account No. 01-2745 in the amount of \$130.00 to cover the fee under 37 C.F.R. § 1.17(i) and ensure consideration of the disclosed information. A duplicate copy of this paper is attached.

Respectfully,

Date: 6/11/2001

By: Thomas M. Isaacson

Thomas M. Isaacson, Attorney
Reg. No.: 44166
T: 410-257-5485
F: 732-368-6932

AT&T CORP.

P.O. Box 4110

Middletown, New Jersey 07748-4110

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as (necessary))

Complete if Known

Application Number	
Filing Date	
First Named Inventor	Titus Lo et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	2001-0084

11040 U.S. PTO
09/876555
06/11/01

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figure Appears
		Number	Kind Code ² (if known)			
	AA	5272727		Kazuhiro Okanoue	12/21/1993	
	AB	5432821		Andreas Polydoros et al	07/11/1995	
	AC	5465276		Lars G. Larsson et al	11/07/1995	
	AD	5581580		Lars Lindbom et al	12/03/1996	
	AE	5687198		Thomas A. Sexton et al	11/11/1997	
	AF	5754599		Fuyun Ling et al	05/19/1998	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figure Appears	T ⁵
		Office ³	Number (if known)	Kind Code ⁴				
								<input type="checkbox"/>
								<input type="checkbox"/>
								<input type="checkbox"/>
								<input type="checkbox"/>
								<input type="checkbox"/>
								<input type="checkbox"/>
								<input type="checkbox"/>
Examiner Signature					Date Considered			

*EXAMINER: Initial if referenced considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ² See attached Kinds of U.S. Patent Documents ³ Enter Office that issued the document, by the two letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, D.C. 20231

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as (necessary))				Complete if Known	
				Application Number	
				Filing Date	
				First Named Inventor	Titus Lo et al.
				Group Art Unit	
				Examiner Name	
Sheet	2	of	2	Attorney Docket Number	2001-0084

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article(when appropriate), title of the item(book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	AG	A New Channel Estimator For Fast Start-up Equalization, KHALID A. HAMIED et al., IEEE Transactions On Communications, Vol. 39, No. 2, February 1991, pages 177-181.	<input type="checkbox"/>
	AH	An Adaptive Maximum-Likelihood Sequence Estimator For Fast Time-Varying Intersymbol Interference Channels, HIROSHI KUBO et al., IEEE Transactions On Communications, Vol. 42, No. 2/3/4, February/March/April, 1994, pages 1872-1880.	<input type="checkbox"/>
	AI	A Viterbi-Type Algorithm For Efficient Estimation Of M-PSK Sequences Over The Gaussian Channel With Unknown Carrier Phase, POOI YUEN KAM et al., IEEE Transaction On Communications, Vol. 43, No. 9, September, 1995, pages 2429-2433.	<input type="checkbox"/>
	AJ	Sequence Estimation In The Presence Of Random Parameters Via the EM Algorithm, COSTA N. GEORGHIADIS et al., IEEE Transaction On Communications, Vol. 45, No. 3, March 1997, pages 300-308.	<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if referenced considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number ² Applicant is to place a check mark here if English language translation is attached.

SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, D.C. 20231